

103003

16698 U.S. PTC

Process for Generating Nuclear Heat

17302 U.S. PTO  
10/696645

103003

TO THE ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231  
Sir:

Transmitted herewith for filing is the patent application of

Inventors:

TALBOT CHUBB

For: Process for Generation of NUCLEAR HEAT

Enclosed are the following:

- ☒ Specification, claims, abstract.  
☒ Declaration and Power of Attorney: ☒ executed ☐ unexecuted  
☒ Drawings: sheet(s).  
☐ Assignment of the invention to  
☐ Certified copy of foreign priority application:  
application No. dated  
☐ Preliminary Amendment.  
☐ Verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.

The filing fee has been calculated as shown below:

BASIC FILING FEE			730.00
TOTAL CLAIMS	20 - 20 =	0 X \$22 =	\$0.00
INDEPENDENT CLAIMS	8 - 3 =	5 X \$86	430.00
MULTIPLE DEPENDENT CLAIM PRESENTED			0 + \$260 = 0.00
TOTAL OF ABOVE CALCULATIONS			1160.00
X REDUCTION BY ONE-HALF FOR SMALL ENTITY			(580.00)
TOTAL FILING FEE			580.00

- ☒ A check for \$580.00 is enclosed to cover the following fees:  
☒ filing fee ☐ assignment recording fee

Respectfully submitted,

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## ~~PROCESSES~~ FOR GENERATING NUCLEAR HEAT

### KNOWN PUBLICATIONS

- "Electrochemically Induced Nuclear Fusion of Deuterium", M. Fleischmann and S. Pons, J. Electroanal. Chem., vol. 261, pp. 301-398, (1989).
- "Deuterium Gas Loading of Palladium Using a Solid State Electrolyte", J-P Biberian and G. Lonchamp, Proc. ICCF9 (2002), in "Condensed Matter Nuclear Science", ed. by Xing Z. Li (Tsinghua University Press, China, 2003) pp. 17-22.
- "Elemental Analyses of Pd Complexes: Effects of D<sub>2</sub> Gas Permeation", Y. Iwamura, M. Sakano, and T. Itoh, Jpn. J. Appl. Phys. 41A, pp. 4642-4650, (2002).
- "Low Energy Nuclear Transmutations in Condensed Matter Induced by D<sub>2</sub> Gas Permeation Through Pd Complexes: Correlation between Deuterium flux and Nuclear Product", Y. Iwamura, T. Itoh, M. Sakano, and S. Kuribayashi, in ICCF10 Abstracts, Presentation Tu15, (2003).
- "Replication of MHI Transmutation Experiment By D<sub>2</sub> Gas Permeation Through Pd Complex", T. Higashiyama, M. Sukano, H. Miyamaru, and A. Takahashi, ICCF10 Proceedings preprint, distributed through [www.LENR-CANR.org](http://www.LENR-CANR.org), pp. 1-6, (2003).
- "The dd Cold Fusion-Transmutation Connection", T. A. Chubb, ICCF10 Proceedings preprint, distributed through [www.LENR-CANR.org](http://www.LENR-CANR.org), pp. 1-15, (2003a).
- "LENR: Superfluids, Self-Trapping and Non-Self-Trapping States" T. A. Chubb, ICCF10 Proceedings preprint, distributed through [www.LENR-CANR.org](http://www.LENR-CANR.org), pp. 1-4, (2003b).

## DESCRIPTION OF PRIOR PUBLICATIONS

Referring to the known prior publications, Fleischmann and Pons, J. Electroanal. Chem., vol. 261, pp. 301-398, (1989), described studies demonstrating the release of nuclear heat in the cathode of an electrochemical chemical cell in which deuterium ions ( $D^+$  = mass-2 hydrogen ion = deuteron) were neutralized on the surface of a palladium cathode. Biberian and Lonchamp, Proc. ICCF9 (2002), in "Condensed Matter Nuclear Science", ed. by Xing Z. Li (Tsinghua University Press, China, 2003) pp. 17-22, described an apparatus and process for transferring deuterium from  $D_2$  gas into and out of a metal using an electrically polarized solid electrolyte. Iwamura et al., Jpn. J. Appl. Phys. 41A, pp. 4642-4650, (2002), described means for creating a nuclearly active form of deuterium and for detecting its participation in exothermic nuclear reactions by means of a transmutation of surface cesium into surface praseodymium. Iwamura et al., ICCF10 Abstracts, Presentation Tu15, 2003, reported on advances in expanding their use of nuclearly reactive deuterium and its participation in exothermic nuclear reactions, and in further confirming the identity of the transmutation product. Higashiyama et al., ICCF10 Proceedings preprint, distributed through [www.LENR-CANR.org](http://www.LENR-CANR.org), pp. 1-6, (2003), reported on replications of the Iwamura et al. process at Osaka University. All the previous cesium transmutation work had been carried out by Iwamura et al. at the Advanced Technology Research Center of Mitsubishi Heavy Industries. T. A. Chubb, ICCF10 Proceedings preprints, distributed through [www.LENR-CANR.org](http://www.LENR-CANR.org), (2003a and 2003b), are publications which describe theory modeling exothermic nuclear reactions in/on a metal solid in which reactions deuterium participates.